

EXPERIMENTAL EYE RESEARCH

Editor-in-Chief

E. A. BALAZS

Section Editors

G. Duncan, B. E. J. Ehinger, J. G. Hollyfield, M. E. Langham, P. J. O'Brien,
J. Piatigorski, A. Spector and R. Tripathi

Editors

| | |
|------------------|-------------------|
| D. C. Beebe | S. K. Fisher |
| C. Belmonte | W. H. Garner |
| J. C. Besharse | I. Gery |
| F. Bettelheim | F. Giblin |
| S. P. Bhat | J. Harding |
| P. Bhattacharjee | J. Horwitz |
| A. Bill | M. LaVail |
| L. Z. Bito | E. Lütjen-Drecoll |
| H. Bloemendal | R. E. Marc |
| M. L. Breitman | D. M. Maurice |
| A. J. Bron | T. Mittag |
| C. Cintron | R. Molday |
| Y. Courtois | V. N. Reddy |
| P. A. D'Amore | J. C. Saari |
| H. Davson | L. J. Takemoto |
| D. B. Farber | W. G. Unger |
| J. Fischbarg | J. A. Zadunaisky |

VOLUME 52

1991

Academic Press

Harcourt Brace Jovanovich, Publishers

London San Diego New York Boston Sydney Tokyo Toronto

EXPERIMENTAL EYE RESEARCH

Digitized by the Internet Archive
in 2023 with funding from
Kahle/Austin Foundation

Academic Press

CONTENTS OF VOLUME 52

NUMBER 1, JANUARY 1991

| | |
|--|-----|
| GANDOLFI, S. A. and MARAINI, G. Increased Ion Traffic Through Non-specific Cation Pathways in the Ageing Human Lens. Evidence from Radiotracer Fluxes Studies | 1 |
| BROWN, D., CHWA, M., ESCOBAR, M. and KENNEY, M. C. Characterization of the Major Matrix Degrading Metalloproteinase of Human Corneal Stroma. Evidence for an Enzyme/Inhibitor Complex | 5 |
| EHINGER, B., NARFSTRÖM, K., NILSSON, S. E. and VAN VEEN, T. Photoreceptor Degeneration and Loss of Immunoreactive GABA in the Abyssinian Cat Retina | 17 |
| ARAIE, M. and MAURICE, D. M. The Loss of Fluorescein, Fluorescein Glucuronide and Fluorescein Isothiocyanate Dextran from the Vitreous by the Anterior and Retinal Pathways | 27 |
| GÖTZ, W., THEURING, F., FAVOR, J. and HERKEN, R. Eye Pathology in Transgenic Mice Carrying a MSV-SV 40 Large T-construct | 41 |
| EDWARDS, R. B., ADLER, A. J. and CLAYCOMB, R. C. Requirement of Insulin or IGF-1 for the Maintenance of Retinyl Ester Synthetase Activity by Cultured Retinal Pigment Epithelial Cells | 51 |
| TASSIGNON, M. J., STEPELS, N., NGUYEN-LEGROS, J., BRIHAYE, M. and DE WILDE, F. Gamma-aminobutyric acid (GABA) Immunocytochemistry of Laser Coagulations in the Rabbit Retina | 59 |
| LANDERS, R. A., TAWARA, A., VARNER, H. H. and HOLLYFIELD, J. G. Proteoglycans in the Mouse Interphotoreceptor Matrix. IV. Retinal Synthesis of Chondroitin Sulfate Proteoglycan | 65 |
| HETH, C. A. and BERNSTEIN, M. H. Mannose-sensitive HRP Endocytosis by the Retinal Pigment Epithelium | 75 |
| PRESCOTT, A. R., STEWART, S., DUNCAN, G., GOWING, R. and WARN, R. M. Diamide Induces Reversible Changes in Morphology, Cytoskeleton and Cell-Cell Coupling in Lens Epithelial Cells | 83 |
| LIN, L.-R., REDDY, V. N., GIBLIN, F. J., KADOR, P. F. and KINOSHITA, J. H. Polyol Accumulation in Cultured Human Lens Epithelial Cells | 93 |
| LETTERS TO THE EDITORS | |
| BELPOLITI, M. Analysis of Carbohydrates in Human Lens Epithelium by High Performance Liquid Chromatography of Nitrobenzoate Derivatives | 101 |
| OSBORNE, N. N. Agonist-induced Stimulation of cAMP in the Lens: Presence of Functional β -Receptors | 105 |
| ABRAHAM, E. C., PERRY, R. E., ABRAHAM, A. and SWAMY, M. S. Proteins of Urea-soluble High Molecular Weight (HMW) Aggregates from Diabetic Cataract: Identification of In Vivo Glycation Sites | 107 |

NUMBER 2, FEBRUARY 1991

| | |
|---|-----|
| BERMBACH, G., MAYER, U. and NAUMANN, G. O. H. Human Lens Epithelial Cells in Tissue Culture | 113 |
| SAMPLES, J. R., BINDER, P. S. and NAYAK, S. K. Propagation of Human Corneal Endothelium In Vitro Effect of Growth Factors | 121 |

| | |
|---|-----|
| TIMMERS, A. M., VAN GRONINGEN-LUYBEN, D. A. H. M. and DE GRIP, W. J. Uptake and Isomerization of All-trans Retinol by Isolated Bovine Retinal Pigment Epithelial Cells: Further Clues to the Visual Cycle | 129 |
| BUSH, R. A. and WILLIAMS, T. P. The Effect of Unilateral Optic Nerve Section on Retinal Light Damage in Rats | 139 |
| KAPALANGA, J. and BLECHER, S. R. Histological Studies on Eyelid Opening in Normal Male Mice and Hemizygotes for the Mutant Gene Tabby (<i>Ta</i>) With and Without Epidermal Growth Factor Treatment | 155 |
| LANGHAM, M. E., GREBE, R., HOPKINS, S., MARCUS, S. and SEBAG, M. Choroidal Blood Flow in Diabetic Retinopathy | 167 |
| ISHIDA, A. T. and CHENG, M.-H. Cold Inhibits Neurite Outgrowth From Single Retinal Ganglion Cells Isolated From Adult Goldfish | 175 |
| PANDE, J., McDERMMOTT, M. J., CALLENDER, R. H. and SPECTOR, A. The Calf Gamma Crystallins—A Raman Spectroscopic Study | 193 |
| BUSCH, M. J. W. M., STJERNESCHANTZ, J. and HOYNG, P. F. J. Increase in Ocular Blood Flow Induced by Isobutylmethylxanthine and Epinephrine | 199 |
| RAZA, K. and HARDING, J. J. Non-Enzymic Modification of Lens Proteins by Glucose and Fructose: Effects of Ibuprofen | 205 |
| STINSON, A. M., WIEGAND, R. D. and ANDERSON, R. E. Fatty Acid and Molecular Species Compositions of Phospholipids and Diacylglycerols From Rat Retinal Membranes | 213 |
| STINSON, A. M., WIEGAND, R. D. and ANDERSON, R. E. Metabolism of Lipid Molecular Species in Rat Rod Outer Segments | 219 |
| LETTER TO THE EDITORS | |
| JUMBLATT, M. M., RAPHAEL, B. and JUMBLATT, J. E. A Simple Method for the Isolation of Ciliary Epithelium | 229 |
| ANNOUNCEMENT | 233 |
| ERRATUM | 235 |

NUMBER 3, MARCH 1991

| | |
|---|-----|
| SAKAI, J., HUNG, J., ZHU, G., KATAKAMI, C., BOYCE, S. and KAO, W. W.-Y. Collagen Metabolism During Healing of Lacerated Rabbit Corneas | 237 |
| BRITTEBO, E. B., ERIKSSON, C. and BRANDT, I. Metabolic Activation of Halogenated Hydrocarbons in the Conjunctival Epithelium and Excretory Ducts of the Intraorbital Lacrimal Gland in Mice | 245 |
| SACHEDINA, S., GREINER, J. V. and GLONEK, T. Phosphatic Intermediate Metabolites of the Porcine Ocular Tunica Fibrosa | 253 |
| PÄÄLLYSAHO, T. and WILLIAMS, D. S. Epithelial Cell-substrate Adhesion in the Cornea: Localization of Actin, Talin, Integrin, and Fibronectin | 261 |
| BETTELHEIM, F. A., BOVE, A. and DOLAN, R. Accessibility of Crystallins to HCl Gas | 269 |
| DAKE, Y. and AMEMIYA, T. Electron Microscopic Study of the Optic Nerve in Copper Deficient Rats | 277 |
| ALVAREZ, L. J., WOLOSIN, J. M. and CANDIA, O. A. Contribution from a pH- and Tonicity-sensitive K ⁺ Conductance to Toad Translens Short-circuit Current | 283 |
| ALDER, V. A., YU, D.-Y. and CRINGLE, S. J. Vitreal Oxygen Tension Measurements in the Rat Eye | 293 |

| | |
|---|-----|
| FRANK, K., FUNK, R., KESSLER, M. and ROHEN, J. W. Spectrometric Measurements in the Anterior Eye Vasculature of the Albino Rabbit—A Study with the EMPHO I | 301 |
| WIECHMANN, A. F., FONT, R. L. and HOLLYFIELD, J. G. Idiopathic Retinal Degeneration in the Dog: Differential Patterns of [³ H]Uridine Incorporation and HIOMT-like Immunoreactivity in Surviving Photoreceptors | 311 |
| WEN, Y., UNAKAR, N. J. and BEKHOR, I. Evaluation of Lens Epithelial Cell Differentiation by Quantitation of MP26 mRNA Relative to γ -Crystallin mRNA in Initiation of Galactose Cataracts in the Rat | 321 |
| KEMP, C. M. and JACOBSON, S. G. The Distribution and Kinetics of Visual Pigments in the Owl Monkey Retina | 329 |
| CHENG, H.-M., KWONG, K. K., DIXON, S., TANAKA, G., XIONG, J., MOORE, G. and CHESLER, D. A. Water Movement in the Rabbit Eye | 337 |
| JAHNGEN-HODGE, J., LAXMAN, E., ZULIANI, A. and TAYLOR, A. Evidence for ATP and Ubiquitin Dependent Degradation of Proteins in Cultured Bovine Lens Epithelial Cells | 341 |
| ANDERSON, R. E., MAUDE, M. B., ALVAREZ, R. A., ACLAND, G. M. and AGUIRRE, G. D. Plasma Lipid Abnormalities in the Miniature Poodle with Progressive Rod-Cone Degeneration | 349 |
| DENIS, P., DUSSAILLANT, M., NORDMANN, J.-P., ELENA, P.-P., SARAUX, H. and ROSTENE, W. Autoradiographic Characterization and Localization of Vasoactive Intestinal Peptide Binding Sites in Albino Rat and Rabbit Eyes | 357 |
| ANNOUNCEMENT | 367 |

NUMBER 4, APRIL 1991

| | |
|---|-----|
| KAMEI, A. Possible Process of Insolubilization of Lens Proteins—Direct Effect of Glucose | 369 |
| CORONEO, M. T., KORBMACHER, C., FLÜGEL, C., STIEMER, B., LÜTJEN-DRECOLL, E. and WIEDERHOLT, M. Electrical and Morphological Evidence for Heterogeneous Populations of Cultured Bovine Trabecular Meshwork Cells | 375 |
| VOLOTOVSKY, I. D., BARANOVA, L. A. and KHOVRATOVICH, V. I. Specific cGMP Binding by Retinal Rod Axoneme and its Modulation by Calcium Ions and Calmodulin | 389 |
| TANIHARA, H., OHUCHI, T., YOSHIMURA, N., NEGISHI, M. and ITO, S. Heterogeneous Response in Calcium Signaling by Adrenergic and Cholinergic Stimulation in Cultured Bovine Trabecular Cells | 393 |
| WOLOSIN, J. M., BONANNO, J. A., HANZEL, D. and MACHEN, T. E. Bicarbonate Transport Mechanisms in Rabbit Ciliary Body Epithelium | 397 |
| COOK, C. S., GENEROSO, W. M., HESTER, D. and PEIFFER, Jr., R. L. RPE Dysplasia with Retinal Duplication in a Mutant Mouse Strain | 409 |
| MASFERRER, J. L., RIMARACHIN, J. A., GERRITSEN, M. E., FALCK, J. R., YADAGIRI, P., DUNN, M. W. and LANIADO-SCHWARTZMAN, M. L. 12(R)-Hydroxyeicosatrienoic Acid, a Potent Chemotactic and Angiogenic Factor Produced by the Cornea | 417 |
| SCHNEIDER, T. and ZRENNER, E. Effect of D-1 and D-2 Dopamine Antagonists on ERG and Optic Nerve Response of the Cat | 425 |
| MCCORMACK, C. A. and BURNSIDE, B. Effects of Circadian Phase on Cone Retinomotor Movements in the Midas Cichlid | 431 |
| SWAMY, M. S. and ABRAHAM, E. C. Differential Glycation of Rat α -, β - and γ -Crystallins | 439 |
| DENNEHY, P. J., LINGUA, R. W., LI, K. F., HERNANDEZ, E. and FEUER, W. Succinylcholine-stimulated Muscle Tensions Following Botulinum Injection in the Domestic Cat | 445 |

| | |
|--|-----|
| LIVREA, M. A., TESORIERE, L. and BONGIORNO, A. All- <i>trans</i> to 11- <i>cis</i> Retinol Isomerization in Nuclear Membrane Fraction from Bovine Retinal Pigment Epithelium | 451 |
| HALL, M. O. and ABRAMS, T. A. RPE Cells from Normal Rats do not Secrete a Factor Which Enhances the Phagocytosis of ROS by Dystrophic Rat RPE Cells | 461 |
| BROEKHUYSE, R. M., KUHLMANN, E. D., WINKENS, H. J. and VAN VUGT, A. H. M. Experimental Autoimmune Anterior Uveitis (EAAU), a New Form of Experimental Uveitis. I. Induction by a Detergent-insoluble, Intrinsic Protein Fraction of the Retinal Pigment Epithelium | 465 |
| YU, N.-T., CAI, M.-Z., LEE, B.-S., KUCK, Jr., J. F. R., MCFALL-NGAI, M. and HORWITZ, J. Resonance Raman Detection of a Carotenoid in the Lens of the Deep-sea Hatchetfish | 475 |
| BAZAN, H. E. P., REDDY, S. T. K. and LIN, N. Platelet-activating Factor (PAF) Accumulation Correlates with Injury in the Cornea | 481 |
| APPLEGATE, L. A. and LEY, R. D. DNA Damage is Involved in the Induction of Opacification and Neovascularization of the Cornea by Ultraviolet Radiation | 493 |
| ANNOUNCEMENTS | 499 |

NUMBER 5, MAY 1991

| | |
|---|-----|
| WADA, E., KOYAMA-ITO, H. and MATSUZAWA, A. Biochemical Evidence for Conversion to Milder Form of Hereditary Mouse Cataract by Different Genetic Background | 501 |
| COSTAGLIOLA, C., SCIBELLI, G., FASANO, M. L., FERRARA, L. A. and MASTROPASQUA, L. Effect of Oral Katanserin Administration on Intraocular Pressure in Glaucomatous Patients | 507 |
| HOYNG, P. F. J., GROENEBOER, M. C. and BUSCH, M. J. W. M. Isobutylmethylxanthine Enhances Adrenergic-induced Ocular Hypotension in Rabbits and Beagles | 511 |
| ANDERSSON, S. E. and ALMEGÅRD, B. The Capsaicin-induced Inflammatory Reaction in the Cat Eye: Antagonism by Ruthenium Red | 519 |
| KNEPPER, P. A., MCLONE, D. G., GOOSSENS, W., VANDEN HOEK, T. and HIGBEE, R. G. Ultrastructural Alterations in the Aqueous Outflow Pathway of Adult Buphthalmic Rabbits | 525 |
| IFEANYI, F. and TAKEMOTO, L. Interaction of Lens Crystallins with Lipid Vesicles | 535 |
| YAMAGUCHI, K., YAMAGUCHI, K., SHEEDLO, H. J. and TURNER, J. E. Ciliary Body Degeneration in the Royal College of Surgeons Dystrophic Rat | 539 |
| AGARWAL, N., HSIEH, C.-L., SILLS, D., SWAROOP, M., DESAI, B., FRANCKE, U. and SWAROOP, A. Sequence Analysis, Expression and Chromosomal Localization of a Gene, Isolated From a Subtracted Human Retina cDNA Library, That Encodes an Insulin-like Growth Factor Binding Protein (IGFBP2) | 549 |
| DEVAMANOCHARAN, P. S., HENEIN, M., MORRIS, S., RAMACHANDRAN, S., RICHARDS, R. D. and VARMA, S. D. Prevention of Selenite Cataract by Vitamin C | 563 |
| LI, W., ZHOU, Q., QUIN, M., TAO, L., LOU, M. and HU, T. Reduced Absolute Rate of Myo-inositol Biosynthesis of Cultured Bovine Retinal Capillary Pericytes in High Glucose | 569 |
| BENEDITO, S., PRIETO, D., NIELSEN, P. J. and NYBORG, N. C. B. Role of the Endothelium in Acetylcholine-induced Relaxation and Spontaneous Tone of Bovine Isolated Retinal Small Arteries | 575 |
| OCRANT, I., FAY, C. T. and PARMELEE, J. T. Expression of Insulin and Insulin-like Growth Factor Receptors and Binding Proteins by Retinal Pigment Epithelium | 581 |
| HALL, M. O., ABRAMS, T. A. and MITTAG, T. W. ROS Ingestion by RPE Cells is Turned Off by Increased Protein Kinase C Activity and by Increased Calcium | 591 |
| SMITH, S. B. and O'BRIEN, P. J. Acylation and Glycosylation of Rhodopsin in the rd Mouse | 599 |

| | |
|--|-----|
| ZIMMERMAN, W. F. and KEYS, S. Effects of the Antioxidants Dithiothreitol and Vitamin E on Phospholipid Metabolism in Isolated Rod Outer Segments | 607 |
| RUSSELL, P. Two-dimensional Gel Electrophoresis of Human Lens Epithelium: A Study of Spatial Protein Patterns and Aging | 613 |
| TOMLINSON, J., BANNISTER, S. C., CROGHAN, P. C. and DUNCAN, G. Analysis of Rat Lens $^{45}\text{Ca}^{2+}$ Fluxes: Evidence for Na^{+} - Ca^{2+} Exchange | 619 |
| JOHNSON, K. R., SAS, D. F. and JOHNSON, R. G. MP26, a Protein of Intercellular Junctions in the Bovine Lens: Electrophoretic and Chromatographic Characterization | 629 |

NUMBER 6, JUNE 1991

| | |
|---|-----|
| MERCHANT, T. E., LASS, J. H., MENESES, P., GREINER, J. V. and GLONEK, T. The Effects of Age on Phosphatic Metabolites of the Human Crystalline Lens | 641 |
| VRENSEN, G. F. J. M., GRAW, J. and DE WOLF, A. Nuclear Breakdown During Terminal Differentiation of Primary Lens Fibres in Mice: A Transmission Electron Microscopic Study | 647 |
| LAM, T. T., LIU, D., BRODY, M. A., CHU, R. and TSO, M. O. M. Clearance of S-(3-Amino-2-Hydroxypropyl) Phosphorothioate (WR-77913) in Rats | 661 |
| LI, L. and TURNER, J. E. Optimal Conditions for Long-term Photoreceptor Cell Rescue in RCS Rats: The Necessity for Healthy RPE Transplants | 669 |
| FLÜGEL, C., TAMM, E. and LÜTJEN-DRECOLL, E. Different Cell Populations in Bovine Trabecular Meshwork: An Ultrastructural and Immunocytochemical Study | 681 |
| XU, X., XU, J., HUANG, B., LIVSEY, C. T. and KARWOSKI, C. J. Comparison of Pharmacological Agents (Aspartate vs. Aminophosphonobutyric plus Kynurenic Acids) to Block Synaptic Transmission from Retinal Photoreceptors in Frog | 691 |
| LONG, K. O. and AGUIRRE, G. D. The Cone Matrix Sheath in the Normal and Diseased Retina: Cytochemical and Biochemical Studies of Peanut Agglutinin-binding Proteins in Cone and Rod-cone Degeneration | 699 |
| BHAT, K. S., JOHN, A., REDDY, P. R., REDDY, P. S. and REDDY, V. N. Effect of Pigmentation on Glutathione Redox Cycle Antioxidant Defense in Whole as well as Different Regions of Human Cataractous Lens | 715 |
| ERICKSON-LAMY, K., ROHEN, J. W. and GRANT, W. M. Outflow Facility Studies in the Perfused Human Ocular Anterior Segment | 723 |
| SHEFFIELD, J. B. and GRAFF, D. Extracellular Proteases in Developing Chick Neural Retina | 733 |
| PRESCOTT, A. R., WEBB, S. F., RAWLINS, D., SHAW, P. J. and WARN, R. M. Microtubules Rich in Post-translationally Modified α -Tubulin Form Distinct Arrays in Frog Lens Epithelial Cells | 743 |
| LETTERS TO THE EDITORS | |
| STONE, R. A., LIN, T. and LATIES, A. M. Muscarinic Antagonist Effects on Experimental Chick Myopia | 755 |
| LIMJOCO, T. I., CARPER, D., BONDY, C. and CHEPELINSKY, A. B. Accumulation and Spatial Location of Aldose Reductase mRNA in a Lens Tumor of an α A-Crystallin/SV40 T Antigen Transgenic Mouse Line | 759 |
| UBELS, J. L., IORFINO, A. and O'BRIEN, W. J. Retinoic Acid Decreases the Number of EGF Receptors in Corneal Epithelium and Chang Conjunctival Cells | 763 |
| ERRATUM | 767 |

AUTHOR INDEX

- ABRAHAM, A. (see ABRAHAM, E. C.), 107
- ABRAHAM, E. C., PERRY, R. E., ABRAHAM, A. and SWAMY, M. S., Proteins of urea-soluble high molecular weight (HMW) aggregates from diabetic cataract: Identification of *in vivo* glycation sites, 107
- ABRAHAM, E. C. (see SWAMY, M. S.), 439
- ABRAMS, T. A. (see HALL, M. O.), 461, 591
- ACLAND, G. M. (see ANDERSON, R. E.), 349
- ADLER, A. J. (see EDWARDS, R. B.), 51
- AGARWAL, N., HSIEH, C.-L., SILLS, D., SWAROOP, M., DESAI, B., FRANCKE, U. and SWAROOP, A., Sequence analysis, expression and chromosomal localization of a gene isolated from a subtracted human retina cDNA library, that encodes an insulin-like growth factor binding protein (IGFBP2), 549
- AGUIRRE, G. D. (see ANDERSON, R. E.), 349
- AGUIRRE, G. D. (see LONG, K. I.), 699
- ALDER, V. A., YU, D.-Y. and CRINGLE, S. J., Vitreal oxygen tension measurements in the rat eye, 293
- ALMEGÅRD, B. (see ANDERSSON, S. E.), 519
- ALVAREZ, L. J., WOLOSIN, J. M. and CANDIA, O. A., Contribution from a pH- and tonicity-sensitive K^+ conductance to toad trans lens short-circuit current, 283
- ALVAREZ, R. A. (see ANDERSON, R. E.), 349
- AMEMIYA, T. (see DAKE, Y.), 277
- ANDERSON, R. E., MAUDE, M. B., ALVAREZ, R. A., ACLAND, G. M. and AGUIRRE, G. D., Plasma lipid abnormalities in the miniature poodle with progressive rod-cone degeneration, 349
- ANDERSON, R. E. (see STINSON, A. M.), 213, 219
- ANDERSSON, S. E. and ALMEGÅRD, B., The capsaicin-induced inflammatory reaction in the cat eye: antagonism by ruthenium red, 519
- APPLEGATE, L. A. and LEY, R. D., DNA damage is involved in the induction of opacification and neovascularization of the cornea by ultraviolet radiation, 493
- ARAI, M. and MAURICE, D. M., The loss of fluorescein, fluorescein glucuronide and fluorescein isothiocyanate dextran from the vitreous by the anterior and retinal pathways, 27
- BANNISTER, S. C. (see TOMLINSON, J.), 619
- BARANOVA, L. A. (see VOLOTOVSKY, I. D.), 389
- BAZAN, H. E. P., REDDY, S. T. K. and LIN, N., Platelet-activating factor (PAF) accumulation correlates with injury in the cornea, 481
- BEKHOR, I. (see WEN, Y.), 321
- BELPOLITI, M., Analysis of carbohydrates in human lens epithelium by high performance liquid chromatography of nitrobenzoate derivatives, 101
- BENEDITO, S., PRIETO, D., NIELSEN, P. J. and NYBORG, N. C. B., Role of the endothelium in acetylcholine-induced relaxation and spontaneous tone of bovine isolated retinal small arteries, 575
- BERMBACH, G., MAYER, U. and NAUMANN, G. O. H., Human lens epithelial cells in tissue culture, 113
- BERNSTEIN, M. H. (see HETH, C. A.), 75
- BETTELHEIM, F. A., BOVE, A. and DOLAN, R., Accessibility of crystallins to HCL gas, 269
- BHAT, K. S., JOHN, A., REDDY, P. R., REDDY, P. S. and REDDY, V. N., Effect of pigmentation on glutathione redox cycle antioxidant defense in whole as well as different regions of human cataractous lens, 715
- BINDER, P. S. (see SAMPLES, J. R.), 121
- BLECHER, S. R. (see KAPALANGA, J.), 155
- BONANNO, J. A. (see WOLOSIN, J. M.), 397
- BONDY, C. (see LIMJOCO, T. I.), 759
- BONGIORNO, A. (see LIVREA, M. A.), 451
- BOVE, A. (see BETTELHEIM, F. A.), 269
- BOYCE, S. (see SAKAI, J.), 237
- BRANDT, I. (see BRITTEBO, E. B.), 245
- BRIHAYE, M. (see TASSIGNON, M. J.), 59
- BRITTEBO, E. B., ERIKSSON, C. and BRANDT, I., Metabolic activation of halogenated hydrocarbons in the conjunctival epithelium and excretory ducts of the intraorbital lacrimal gland in mice, 245
- BRODY, M. A. (see LAM, T. T.), 661
- BROEKHUYSE, R. M., KUHLMANN, E. D., WINKENS, H. J. and VAN VUGT, A. H. M., Experimental autoimmune anterior uveitis (EAAU), a new form of experimental uveitis. I. Induction by a detergent-insoluble, intrinsic protein fraction of the retinal pigment epithelium, 465
- BROWN, D., CHWA, M., ESCOBAR, M. and KENNEY, M. C., Characterization of the major matrix degrading metalloproteinase of human corneal stroma. Evidence for an enzyme/inhibitor complex, 5
- BURNSIDE, B. (see MCCORMACK, C. A.), 431
- BUSCH, M. J. W. M., STJERNESCHANTZ, J. and HOYNG, P. F. J., Increase in ocular blood flow induced by isobutylmethylxanthine and epinephrine, 199
- BUSCH, M. J. W. M. (see HOYNG, P. F. J.), 511
- BUSH, R. A. and WILLIAMS, T. P., The effect of unilateral optic nerve section on retinal light damage in rats, 139
- CAI, M.-Z. (see YU, N.-T.), 475
- CALLENDER, R. H. (see PANDE, J.), 193
- CANDIA, O. A. (see ALVAREZ, L. J.), 283
- CARPER, D. (see LIMJOCO, T. I.), 759
- CHENG, H.-M., KWONG, K. K., DIXON, S., TANAKA, G., XIONG, J., MOORE, G. and CHESLER, D. A., Water movement in the rabbit eye, 337
- CHENG, M.-H. (see ISHIDA, A. T.), 175
- CHEPELINSKY, A. B. (see LIMJOCO, T. I.), 759
- CHESLER, D. A. (see CHENG, H.-M.), 337
- CHU, R. (see LAM, T. T.), 661
- CHWA, M. (see BROWN, D.), 5
- CLAYCOMB, R. C. (see EDWARDS, R. B.), 51

- COOK, S. C., GENEROSO, W. M., HESTER, D. and PEIFFER, JR., R. L., RPE dysplasia with retinal duplication in a mutant mouse strain, 409
- CORONEO, M. T., KORBMACHER, C., FLÜGEL, C., STIEMER, B., LÜTJEN-DRECOLL, E. and WIEDERHOLT, M., Electrical and morphological evidence for heterogeneous populations of cultured bovine trabecular meshwork cells, 375
- COSTAGLIOLA, C., SCIBELLI, G., FASANO, M. L., FERRARA, L. A. and MASTROPASQUA, L., Effect of oral katanerin administration on intraocular pressure in glaucomatous patients, 507
- CRINGLE, S. J. (see ALDER, V. A.), 293
- CROGHAN, P. C. (see TOMLINSON, J.), 619
- DAKE Y. and AMEMIYA, T., Electron microscopic study of the optic nerve in copper deficient rats, 277
- DENIS, P., DUSSAILLANT, M., NORDMANN, J.-P., ELENA, P.-P., SARAUX, H. and ROSTENE, W., Autoradiographic characterization and localization of vasoactive intestinal peptide binding sites in albino rat and rabbit eyes, 357
- DENNEHY, P. J., LINGUA, R. W., LI, K. F., HERNANDEZ, E. and FEUER, W., Succinylcholine-stimulated muscle tensions following botulinum injection in the domestic cat, 445
- DE GRIP, W. J. (see TIMMERS, A. M.), 129
- DESAI, B. (see AGARWAL, N.), 549
- DEVAMANOHARAN, P. S., HENEIN, M., MORRIS, S., RAMACHANDRAN, S., RICHARDS, R. D. and VARMA, S. D., Prevention of selenite cataract by vitamin C, 563
- DE WILDE, F. (see TASSIGNON, M. J.), 59
- DE WOLF, A. (see VRENSSEN, G. F. J. M.), 647
- DIXON, S. (see CHENG, H.-M.), 337
- DOLAN, R. (see BETTELHEIM, F. A.), 269
- DUNCAN, G. (see PRESCOTT, A. R.), 83
- DUNCAN, G. (see TOMLINSON, J.), 619
- DUNN, M. W. (see MASFERRER, J. L.), 417
- DUSSAILLANT, M. (see DENIS, P.), 357
- EDWARDS, R. B., ADLER, A. J. and CLAYOMB, R. C., Requirement of insulin or IGF-1 for the maintenance of retinyl ester synthetase activity by cultured retinal pigment epithelial cells, 51
- EHINGER, B., NARESTRÖM, K., NILSSON, S. E. and VAN VEEN, T., Photoreceptor degeneration and loss of immunoreactive GABA in the Abyssinian cat retina, 17
- ELENA, P.-P. (see DENIS, P.), 357
- ERICKSON-LAMY, K., ROHEN, J. W. and GRANT, W. M., Outflow facility studies in the perfused human ocular anterior segment, 723
- ERIKSSON, C. (see BRITTEBO, E. B.), 245
- ESCOBAR, M. (see BROWN, D.), 5
- FALCK, J. R. (see MASFERRER, J. L.), 417
- FASANO, M. L. (see COSTAGLIOLA, C.), 507
- FAVOR, J. (see GÖTZ, W.), 41
- FAY, C. T. (see OCRANT, I.), 581
- FERRARA, L. A. (see COSTAGLIOLA, C.), 507
- FEUER, W. (see DENNEHY, P. J.), 445
- FLÜGEL, C., TAMM, E. and LÜTJEN-DRECOLL, E., Different cell populations in bovine trabecular meshwork: an ultrastructural and immunocytochemical study, 681
- FLÜGEL, C. (see CORONEO, M. T.), 375
- FONT, R. L. (see WIECHMANN, A. F.), 311
- FRANCKE, U. (see AGARWAL, N.), 549
- FRANK, K., FUNK, R., KESSLER, M. and ROHEN, J. W., Spectrometric measurements in the anterior eye vasculature of the albino rabbit – a study with the EMPHO I, 301
- FUNK, R. (see FRANK, K.), 301
- GANDOLFI, S. A. and MARAINI, G., Increased ion traffic through non-specific cation pathways in the ageing human lens. Evidence from radiotracer fluxes studies, 1
- GENEROSO, W. M. (see COOK, S. C.), 409
- GERRITSEN, M. E. (see MASFERRER, J. L.), 417
- GIBLIN, F. J. (see LIN, L.-R.), 93
- GLONEK, T. (see MERCHANT, T. E.), 641
- GLONEK, T. (see SACHEDINA, S.), 253
- GOOSSENS, W. (see KNEPPER, P. A.), 525
- GÖTZ, W., THEURING, F., FAVOR, J. and HERKEN, R., Eye pathology in transgenic mice carrying a MSV-SV 40 large T-construct, 41
- GOWING, R. (see PRESCOTT, A. R.), 83
- GRAFF, D. (see SHEFFIELD, J. B.), 733
- GRANT, W. M. (see ERICKSON-LAMY, K.), 723
- GRAW, J. (see VRENSSEN, G. F. J. M.), 647
- GREBE, E. (see LANGHAM, M. E.), 167
- GREINER, J. V. (see MERCHANT, T. E.), 641
- GREINER, J. V. (see SACHEDINA, S.), 253
- GROENEBOER, M. C. (see HOYNG, P. F. J.), 511
- HALL, M. O. and ABRAMS, T. A., RPE cells from normal rats do not secrete a factor which enhances the phagocytosis of ROS by dystrophic rat RPE cells, 461
- HALL, M. O., ABRAMS, T. A. and MITTAG, T. W., ROS ingestion by RPE cells turned off by increased protein kinase C activity and by increased calcium, 591
- HANZEL, D. (see WOLOSIN, J. M.), 397
- HARDING, J. J. (see RAZA, K.), 205
- HENEIN, M. (see DEVAMANOHARAN, P. S.), 563
- HERKEN, R. (see GÖTZ, W.), 41
- HERNANDEZ, E. (see DENNEHY, P. J.), 445
- HESTER, D. (see COOK, S. C.), 409

- HETH, C. A. and BERNSTEIN, M. H., Mannose-sensitive HRP endocytosis by the retinal pigment epithelium, 75
- HIGBEE, R. G. (see KNEPPER, P. A.), 525
- HOLLYFIELD, J. G. (see LANDERS, R. A.), 65
- HOLLYFIELD, J. G. (see WIECHMANN, A. F.), 311
- HOPKINS, S. (see LANGHAM, M. E.), 167
- HORWITZ, J. (see YU, N.-T.), 475
- HOYNG, P. F. J., GROENEBOER, M. C. and BUSCH, M. J. W. M., Isobutylmethylxanthine enhances adrenergic-induced ocular hypotension in rabbits and beagles, 511
- HOYNG, P. F. J. (see BUSCH, M. J. W. M.), 199
- HSIEH, C.-L. (see AGARWAL, N.), 549
- HU, T. (see LI, W.), 569
- HUANG, B. (see XU, X.), 691
- HUNG, J. (see SAKAI, J.), 237
- IFEANYI, F. and TAKEMOTO, L., Interaction of lens crystallins with lipid vesicles, 535
- IORFINO, A. (see UBELS, J. L.), 763
- ISHIDA, A. T. and CHENG, M.-H., Cold inhibits neurite outgrowth from single retinal ganglion cells isolated from adult goldfish, 175
- ITO, S. (see TANIHARA, H.), 393
- JACOBSON, S. G. (see KEMP, C. M.), 329
- JAHNEN-HODGE, J., LAXMAN, E., ZULIANI, A. and TAYLOR, A., Evidence for ATP and ubiquitin dependent degradation of proteins in cultured bovine lens epithelial cells, 341
- JOHN, A. (see BHAT, K. S.), 715
- JOHNSON, K. R., SAS, D. F. and JOHNSON, R. G., MP26, a protein of intracellular junctions in the bovine lens: electrophoretic and chromatographic characterization, 629
- JOHNSON, R. G. (see JOHNSON, K. R.), 629
- JUMBLATT, J. E. (see JUMBLATT, M. M.), 229
- JUMBLATT, M. M., RAPHAEL, B. and JUMBLATT, J. E., A simple method for the isolation of ciliary epithelium, 229
- KADOR, P. F. (see LIN, L.-R.), 93
- KAMEI, A., Possible process of insolubilization of lens proteins – direct effect of glucose, 369
- KAO, W. W.-Y. (see SAKAI, J.), 237
- KAPALANGA, J. and BLECHER, S. R., Histological studies on eyelid opening in normal male mice and hemizygotes for the mutant gene Tabby (*Ta*) with and without epidermal growth factor treatment, 155
- KARWOSKI, C. J. (see XU, X.), 691
- KATAKAMI, C. (see SAKAI, J.), 237
- KEMP, C. M. and JACOBSON, S. G., The distribution and kinetics of visual pigments in the owl monkey retina, 329
- KENNEY, M. C. (see BROWN, D.), 5
- KESSLER, M. (see FRANK, K.), 301
- KEYS, S. (see ZIMMERMAN, W. F.), 607
- KHOVRATOVICH, V. I. (see VOLOTOVSKY, I. D.), 389
- KINOSHITA, J. H. (see LIN, L.-R.), 93
- KNEPPER, P. A., McLONE, D. G., GOOSSENS, W., VANDEN HOEK, T. and HIGBEE, R. G., Ultrastructural alterations in the aqueous outflow pathway of adult buphthalmic rabbits, 525
- KORBMACHER, C. (see CORONEO, M. T.), 375
- KOYAMA-ITO, H. (see WADA, E.), 501
- KUCK, JR., J. F. R. (see YU, N.-T.), 475
- KUHLMANN, E. D. (see BROEKHUYSE, R. M.), 465
- KWONG, K. K. (see CHENG, H.-M.), 337
- LAM, T. T., LIU, D., BRODY, M. A., CHU, R. and Tso, M. O. M., Clearance of S-(3-amino-2-hydroxypropyl) phosphorothioate (WR-77913) in rats, 661
- LANDERS, R. A., TAWARA, A., VARNER, H. H. and HOLLYFIELD, J. G., Proteoglycans in the mouse interphotoreceptor matrix. IV. Retinal synthesis of chondroitin sulfate proteoglycan, 65
- LANGHAM, M. E., GREBE, R., HOPKINS, S., MARCUS, S. and SEBAG, M., Choroidal blood flow in diabetic retinopathy, 167
- LANIADO-SCHWARTZMAN, M. L. (see MASFERRER, J. L.), 417
- LASS, J. H. (see MERCHANT, T. E.), 641
- LATIES, A. M. (see STONE, R. A.), 755
- LAXMAN, E. (see JAHNEN-HODGE, J.), 341
- LEE, B.-S. (see YU, N.-T.), 475
- LEY, R. D. (see APPLGATE, L. A.), 493
- LI, K. F. (see DENNEHY, P. J.), 445
- LI, L. and TURNER, J. E., Optimal conditions for long-term photoreceptor cell rescue in RCS rats: the necessity for healthy RPE transplants, 669
- LI, W., ZHOU, Q., QUIN, M., TAO, L., LOU, M. and HU, T., Reduced absolute rate of myo-inositol biosynthesis of cultured bovine retinal capillary pericytes in high glucose, 569
- LIMJOCO, T. I., CARPER, D., BONDY, C. and CHEPELSKY, A. B., Accumulation and spatial location of aldose reductase mRNA in a lens tumor of an α A-crystallin/SV40 T antigen transgenic mouse line, 759
- LIN, L.-R., REDDY, V. N., GIBLIN, F. J., KADOR, P. F. and KINOSHITA, J. H., Polyol accumulation in cultured human lens epithelial cells, 93
- LIN, N. (see BAZAN, H. E. P.), 481
- LIN, T. (see STONE, R. A.), 755
- LINGUA, R. W. (see DENNEHY, P. J.), 445
- LIU, D. (see LAM, T. T.), 661
- LIVREA, M. A., TESORIERE, L. and BONGIORNO, A., All-*trans* to 11-*cis* retinol isomerization in nuclear membrane fraction from bovine retinal pigment epithelium, 451
- LIVSEY, C. T. (see XU, X.), 691
- LONG, K. I. and AGUIRRE, G. D., The cone matrix sheath in the normal and diseased retina: cytochemical and biochemical studies of peanut agglutinin-binding proteins in cone and rod-cone degeneration, 699
- LOU, M. (see LI, W.), 569

- LÜTTJEN-DRECOLL, E. (see CORONEO, M. T.), 375
 LÜTTJEN-DRECOLL, E. (see FLÜGEL, C.), 681
- MCCORMACK, C. A. and BURNSIDE, B., Effects of circadian phase on cone retinomotor movements in the Midas cichlid, 431
 McDERMMOTT, M. J. (see PANDE, J.), 193
 McFALL-NGAI, M. (see YU, N.-T.), 475
 McLONE, D. G. (see KNEPPER, P. A.), 525
 MACHEN, T. E. (see WOLOSIN, J. M.), 397
 MARAINI, G. (see GANDOLFI, S. A.), 1
 MARCUS, S. (see LANGHAM, M. E.), 167
 MASFERRER, J. L., RIMARACHIN, J. A., GERRITSEN, M. E., FALCK, J. R., YADAGIRI, P., DUNN, M. W. and LANIADO-SCHWARTZMAN, M. L., 12(R)-Hydroxyeicosatrienoic acid, a potent chemotactic and angiogenic factor produced by the cornea, 417
 MASTROPASQUA, L. (see COSTAGLIOLA, C.), 507
 MATSUZAWA, A. (see WADA, E.), 501
 MAUDE, M. B. (see ANDERSON, R. E.), 349
 MAURICE, D. M. (see ARAIE, M.), 27
 MAYER, U. (see BERMBACH, G.), 113
 MENESES, P. (see MERCHANT, T. E.), 641
 MERCHANT, T. E., LASS, J. H., MENESES, P., GREINER, J. V. and GLONEK, T., The effects of age on phosphatic metabolites of the human crystalline lens, 641
 MITTAG, T. W. (see HALL, M. O.), 591
 MOORE, G. (see CHENG, H.-M.), 337
 MORRIS, S. (see DEVAMANOHARAN, P. S.), 563
- NARFSTRÖM, K. (see EHINGER, B.), 17
 NAUMANN, G. O. H. (see BERMBACH, G.), 113
 NAYAK, S. K. (see SAMPLES, J. R.), 121
 NEGISHI, M. (see TANIHARA, H.), 393
 NGUYEN-LEGROS, J. (see TASSIGNON, M. J.), 59
 NIELSEN, P. J. (see BENEDITO, S.), 575
 NILSSON, S. E. (see EHINGER, B.), 17
 NORDMANN, J.-P. (see DENIS, P.), 357
 NYBORG, N. C. B. (see BENEDITO, S.), 575
- O'BRIEN, P. J. (see SMITH, S. B.), 599
 O'BRIEN, W. J. (see ÜBELS, J. L.), 763
 OCRANT, I., FAX, C. T. and PARMELEE, J. T., Expression of insulin and insulin-like growth factor receptors and binding proteins by retinal pigment epithelium, 581
 OHUCHI, T. (see TANIHARA, H.), 393
 OSBORNE, N. N., Agonist-induced stimulation of cAMP in the lens: Presence of functional β -receptors, 105
- PÄÄLLYSAHO, T. and WILLIAMS, D. S., Epithelial cell-substrate adhesion in the cornea: Localization of actin, talin, integrin, and fibronectin, 261
 PANDE, J., McDERMMOTT, M. J., CALLENDER, R. H. and SPECTOR, A., The calf gamma crystallins – a Raman spectroscopic study, 193
 PARMELEE, J. T. (see OCRANT, I.), 581
 PEIFFER, JR., R. L. (see COOK, S. C.), 409
 PERRY, R. E. (see ABRAHAM, E. C.), 107
 PRESCOTT, A. R., STEWART, S., DUNCAN, G., GOWING, R. and WARN, R. M., Diamide induces reversible changes in morphology, cytoskeleton and cell-cell coupling in lens epithelial cells, 83
 PRESCOTT, A. R., WEBB, S. F., RAWLINS, D., SHAW, P. J. and WARN, R. M., Microtubules rich in post-translationally modified α -tubulin form distinct arrays in frog lens epithelial cells, 743
 PRIETO, D. (see BENEDITO, S.), 575
- QUIN, M. (see LI, W.), 569
- RAMACHANDRAN, S. (see DEVAMANOHARAN, P. S.), 563
 RAPHAEL, B. (see JUMBLATT, M. M.), 229
 RAWLINS, D. (see PRESCOTT, A. R.), 743
 RAZA, K. and HARDING, J. J., Non-enzymic modification of lens proteins by glucose and fructose: effects of ibuprofen, 205
 REDDY, P. R. (see BHAT, K. S.), 715
 REDDY, P. S. (see BHAT, K. S.), 715
 REDDY, S. T. K. (see BAZAN, H. E. P.), 481
 REDDY, V. N. (see BHAT, K. S.), 715
 REDDY, V. N. (see LIN, L.-R.), 93
 RICHARDS, R. D. (see DEVAMANOHARAN, P. S.), 563
 RIMARACHIN, J. A. (see MASFERRER, J. L.), 417
 ROHEN, J. W. (see ERICKSON-LAMY, K.), 723
 ROHEN, J. W. (see FRANK, K.), 301
 ROSTENE, W. (see DENIS, P.), 357
 RUSSELL, P., Two-dimensional gel electrophoresis of human lens epithelium: a study of spatial protein patterns and aging, 613
- SACHEDINA, S., GREINER, J. V. and GLONEK, T., Phosphatic intermediate metabolites of the porcine ocular tunica fibrosa, 253
 SAKAI, J., HUNG, J., ZHU, G., KATAKAMI, C., BOYCE, S. and KAO, W. W.-Y., Collagen metabolism during healing of lacerated rabbit corneas, 237
 SAMPLES, J. R., BINDER, P. S. and NAYAK, S. K., Propagation of human corneal endothelium in vitro effect of growth factors, 121
 SARAUX, H. (see DENIS, P.), 357
 SAS, D. F. (see JOHNSON, K. R.), 629
 SCHNEIDER, T. and ZRENNER, E., Effect of D-1 and D-2 dopamine antagonists on ERG and optic nerve response of the cat, 425
 SCIBELLI, G. (see COSTAGLIOLA, C.), 507
 SEBAG, M. (see LANGHAM, M. E.), 167

- SHAW, P. J. (see PRESCOTT, A. R.), 743
 SHEEDLO, H. J. (see YAMAGUCHI, K.), 539
 SHEFFIELD, J. B. and GRAFF, D., Extracellular proteases in developing chick neural retina, 733
 SILLS, D. (see AGARWAL, N.), 549
 SMITH, S. B. and O'BRIEN, P. J., Acylation glycosylation of rhodopsin in the rd mouse, 599
 SPECTOR, A. (see PANDE, J.), 193
 STEMPELS, N. (see TASSIGNON, M. J.), 59
 STEWART, S. (see PRESCOTT, A. R.), 83
 STIEMER, B. (see CORONEO, M. T.), 375
 STINSON, A. M., WIEGAND, R. D. and ANDERSON, R. E., Fatty acid and molecular species compositions of phospholipids and diacylglycerols from rat retinal membranes, 213
 STINSON, A. M., WIEGAND, R. D. and ANDERSON, R. E., Metabolism of lipid molecular species in rat rod outer segments, 219
 STJERNSCHANTZ, J. (see BUSCH, M. J. W. M.), 199
 STONE, R. A., LIN, T. and LATIES, A. M., Muscarinic antagonist effects on experimental chick myopia, 755
 SWAMY, M. S. and ABRAHAM, E. C., Differential glycation of rat α -, β - and γ -crystallins, 439
 SWAMY, M. S. (see ABRAHAM, E. C.), 107
 SWAROOP, A. (see AGARWAL, N.), 549
 SWAROOP, M. (see AGARWAL, N.), 549

 TAKEMOTO, L. (see IFEANYI, F.), 535
 TAMM, E. (see FLÜGEL, C.), 681
 TANAKA, G. (see CHENG, H.-M.), 337
 TANIHARA, H., OHUCHI, T., YOSHIMURA, N., NEGISHI, M. and ITO, S., Heterogeneous response in calcium signaling by adrenergic and cholinergic stimulation in cultured bovine trabecular cells, 393
 TAO, L. (see LI, W.), 569
 TASSIGNON, M. J., STEMPELS, N., NGUYEN-LEGROS, J., BRIHAYE, M. and DE WILDE, F., Gamma-aminobutyric acid (GABA) immunocytochemistry of laser coagulations in the rabbit retina, 59
 TAWARA, A. (see LANDERS, R. A.), 65
 TAYLOR, A. (see JAHNGEN-HODGE, J.), 341
 TESORIERE, L. (see LIVREA, M. A.), 451
 THEURING, F. (see GÖTZ, W.), 41
 TIMMERS, A. M., VAN GRONINGEN-LUYBEN, D. A. H. M. and DE GRIP, W. J., Uptake and isomerization of all-*trans* retinol by isolated bovine retinal pigment epithelial cells: further clues to the visual cycle, 129
 TOMLINSON, J., BANNISTER, S. C., CROGHAN, P. C. and DUNCAN, G., Analysis of rat lens $^{45}\text{Ca}^{2+}$ fluxes: evidence for $\text{N}^{+}\text{-Ca}^{2+}$ exchange, 619
 TSO, M. O. M. (see LAM, T. T.), 661
 TURNER, J. E. (see LI, L.), 669
 TURNER, J. E. (see YAMAGUCHI, K.), 539

 UBELS, J. L., IORFINO, A. and O'BRIEN, W. J., Retinoic acid decreases the number of EGF receptors in corneal epithelium and Chang conjunctival cells, 763
 UNAKAR, N. J. (see WEN, Y.), 321

 VANDEN HOEK, T. (see KNEPPER, P. A.), 525
 VAN GRONINGEN-LUYBEN, D. A. H. M. (see TIMMERS, A. M.), 129
 VAN VEEN, T. (see EHINGER, B.), 17
 VAN VUGT, A. H. M. (see BROEKHUYSE, R. M.), 465
 VARMA, S. D. (see DEVAMANOHARAN, P. S.), 563
 VARNER, H. H. (see LANDERS, R. A.), 65
 VOLOTOVSKY, I. D., BARANOVA, L. A. and KHOVRATOVICH, V. I., Specific cGMP binding by retinal rod axoneme and its modulation by calcium ions and calmodulin, 389
 VRENSSEN, G. F. J. M., GRAW, J. and DE WOLF, A., Nuclear breakdown during terminal differentiation of primary lens fibres in mice: a transmission electron microscopic study, 647

 WADA, E., KOYAMA-ITO, H. and MATSUZAWA, A., Biochemical evidence for conversion to milder form of hereditary mouse cataract by different genetic background, 501
 WARN, R. M. (see PRESCOTT, A. R.), 83, 743
 WEBB, S. F. (see PRESCOTT, A. R.), 743
 WEN, Y., UNAKAR, N. J. and BEKHOR, I., Evaluation of lens epithelial cell differentiation by quantitation of MP26 mRNA relative to γ -crystallin mRNA in initiation of galactose cataracts in the rat, 321
 WIECHMANN, A. F., FONT, R. L. and HOLLYFIELD, J. G., Idiopathic retinal degeneration in the dog: Differential patterns of [^3H]uridine incorporation and HIOMT-like immunoreactivity in surviving photoreceptors, 311
 WIEDERHOLT, M. (see CORONEO, M. T.), 375
 WIEGAND, R. D. (see STINSON, A. M.), 213, 219
 WILLIAMS, D. S. (see PÄÄLLYSAHO, T.), 261
 WILLIAMS, T. P. (see BUSH, R. A.), 139
 WINKENS, H. J. (see BROEKHUYSE, R. M.), 465
 WOLOSIN, J. M., BONANNO, J. A., HANZEL, D. and MACHEN, T. E., Bicarbonate transport mechanisms in rabbit ciliary body epithelium, 397
 WOLOSIN, J. M. (see ALVAREZ, L. J.), 283

 XIONG, J. (see CHENG, H.-M.), 337
 XU, J. (see XU, X.), 691
 XU, X., XU, J., HUANG, B., LIVSEY, C. T. and KARWOSKI, C. J., Comparison of pharmacological agents (aspartate vs. aminophosphonobutyric plus kynurenic acids) to block synaptic transmission from retinal photoreceptors in frog, 691

 YADAGIRI, P. (see MASFERRER, J. L.), 417
 YAMAGUCHI, K., YAMAGUCHI, K., SHEEDLO, H. J. and TURNER, J. E., Ciliary body degeneration in the Royal College of Surgeons dystrophic rat, 539
 YOSHIMURA, N. (see TANIHARA, H.), 393
 YU, D.-Y. (see ALDER, V. A.), 295

- YU, N.-T., CAI, M.-Z., LEE, B.-S., KUCK, JR., J. F. R., MCFALL-NGAI, M. and HOROWITZ, J., Resonance Raman detection of a carotenoid in the lens of the deep-sea hatchetfish, 475
- ZHOU, Q. (see LI, W.), 569
- ZHU, G. (see SAKAI, J.), 237
- ZIMMERMAN, W. F. and KEYS, S., Effects of the antioxidants dithiothreitol and vitamin E on phospholipid metabolism in isolated rod outer segments, 607
- ZULIANI, A. (see JAHNGEN-HODGE, J.), 341

SUBJECT INDEX

- Abyssinian cat, 17
- Accessibility, 269
- Acetylation, 743
- Acetylcholine, 575
- Actin, 261, 681
- Action potential, 375
- Acylation, 599
- Adherens junction, 261
- Adrenergic stimulation, 393
- Ageing, 1, 613, 641
- Aggregates, 107
- Aggregation, 205, 269
- AL1576, 93
- Albino rabbit, 75, 301, 357
- Albino rat, 357
- Aldose reductase, 93
- Aldose reductase mRNA, 759
- Alkali injury, 481
- Amino acids, excitatory, 691
- Aminophosphonobutyric acid, 691
- Angiogenesis, 417, 493
- Angiotensin, 167
- Animal model, 409
- Anterior chamber angle, 681
- Anterior segment, 301, 337
- Anterior uveitis, 465
- S-antigen, 465
- Antioxidants, 607
- Antioxidant defence, 715
- Aotes trivirgatus*, 329
- Aqueous humour cyclic-AMP, 511
- Aqueous humour formation, 397
- Aqueous humour protein, 511
- Arachidonic acid, 417
- Ascorbate, 563
- Aspartate, 691
- ATP, 341
- Autoradiography, 357
- Axons, 175
- Blood-aqueous barrier, 519
- Blood-vitreous barrier, 27
- Botulinum, 445
- Bovine, 129, 193, 205, 269, 341, 369, 375, 389, 451, 535, 569, 575, 581, 607, 629, 681
- Bovine trabecular cells, 393
- Buphthalmos, 525
- Ca²⁺, 389
- Ca²⁺ signaling, 393
- Calcium, 591
- Calcium binding, 619
- Calcium flux, 619
- Calmodulin, 389
- Capsaicin, 519
- Carbohydrates, 101
- Carotenoid, 475
- Cat, 17, 445
- Cat eye, 425, 519
- Cataract, 113, 205, 439, 715
- Cataract, congenital, 41
- Cataract, diabetic, 93, 107
- Cataract, galactose, 321
- Cataract, hereditary, 501
- Cataract prevention, 563
- Cataractous lens nuclei, 369
- Catecholamines, 511
- Cation channels, non-specific, 1
- cDNA, retinal, 549
- Cell communication, 629
- Cell culture, 51, 113
- Cells, isolated, 129
- Chang conjunctival cells, 763
- Chemotaxis, 417
- Chick, 261, 733, 755
- Cholinergic stimulation, 393
- Chondroitin sulfate, 65
- Choroidal blood flow, 167
- Chromosome, human, 549
- Chromosome, mouse, 549
- Ciliary body, 539
- Ciliary epithelium, 539
- Ciliary epithelium isolation, 229
- Circadian phase, 431
- Cl⁻/HCO₃⁻ exchange, 397
- Clearance, 661
- Collagen metabolism, 237
- Collagenase, 5, 237
- Communication, 83
- Conductance, 283
- Cone degeneration, 699
- Cones, 431
- Confocal microscopy, 743
- Congenital glaucoma, 525
- Conjunctiva, 245
- Conjunctivitis, 245
- Copper, 277
- Copper deficiency, 277
- Cornea, 5, 253, 261, 493
- Corneal endothelium, 121
- Corneal epithelium, 417, 763
- Corneal inflammation, 481
- Corneal wound-healing mRNA, 237
- Cotransport, 397
- Crystallin, 205, 269, 439, 535, 613, 647
- αA-crystallin, 759
- αA-crystallin, mRNA, 321
- γ-crystallin, 193
- γ-crystallin mRNA, 321
- Cuprolinic Blue, 65
- Cyclic-AMP, 105, 411
- Cyclic-GMP, 389
- Cytochrome P450, 417
- Cytoskeletal proteins, 465
- Degeneration, 311
- Dendrites, 175
- Denucleation, 647
- Desmin, 681
- Detergent-insoluble proteins, 465
- Deityrosination, 743
- Deuterium NMR spectroscopy, 337
- D₂O flow, 337
- Development, 733
- Dextran, 27
- Docosahexaenoic acid, 219, 349
- Dog, 311, 349, 511, 699
- Dopamine antagonists, 425

- Diabetes, 167
- Diabetic cataract, 93, 107
- Diabetic retinopathy, 569
- Diastolic arterial pressure, 507
- Diffusion, 27
- Dissociated retinal cells, 175
- Dithiothreitol, 607

- EAU, 465
- Ectodermal dysplasia, 155
- EGF receptors, 763
- Electron microscopy, 375, 647
- Electroretinogram, 425, 691
- Embryogenesis, 647
- Endocytosis, 75
- Endothelium, 121, 575
- Epidermal growth factor (EGF), 155
- Epinephrine, 199, 301
- Epithelial-like cells, 375
- Epithelium, 261
- Experimental autoimmune anterior uveitis (EAAU), 465
- Extracellular space, 691
- Extraocular muscles, 445
- Eye, 293, 357
- Eyelid opening, 155

- Fatty acids, 213
- Fibronectin, 261
- Fluorescein, 27
- Fluorescein glucuronide, 27
- Fluorescence, 205
- Fluorophotometry, 397
- Fluphenazine, 425
- Frog, 83, 691, 743
- Fructose, 205
- Fundus reflectometry, 329

- GABA, 17, 59
- GAD, 17
- Gap junctions, 629
- gel electrophoresis, 613, 629
- Gelatinase, 5, 733
- Glaucoma, 507
- Glaucoma, congenital, 525
- Glial cells, 277
- Glucose, 205
- Glucose-derived insolubilization, 369
- Glucose 6-phosphate dehydrogenase, 715
- Glucosylation, 369
- Glutathione, 715
- Glutathione peroxidase, 715
- Glutathione redox cycle, 715
- Glutathione reductase, 715
- Glycation, 107, 205, 369, 439
- Glycerol, 219
- Glycogen, 681
- Glycosylation, 205, 599
- Goldfish, 175
- Growth factors, 121, 581

- Haemoglobin concentration, 301
- Haemoglobin oxygenation, 301
- Haloperidol, 425
- Hatchetfish, 475
- Hereditary cataract, 501
- HLA-B27, 465
- HMW aggregates, 107
- Horseradish peroxidase, 75
- HPLC, 101
- Human, 1, 5, 51, 93, 101, 121, 167, 417, 507, 613, 641, 715, 723
- Human cataractous lens nuclei, 369
- Human chromosome, 549
- Human lens epithelial cells, 113
- Human normal lens, 369
- Hydrogen chloride, 269
- ¹H-NMR of lens proteins, 369
- Hyperoxia, 293

- IBMX, 199
- Ibuprofen, 205
- IGFBP2, 549
- Immune responses, 465
- Immunocytochemistry, 59, 681
- Immunohistochemistry, 17
- In situ hybridization, 321
- Incubation, short-term, 129
- Infrared spectra, 269
- Insulin, 51
- Insulin-like growth factors, 581
- Insulin-like growth factor type 1, 51
- Insulin-like growth factor binding protein, 549, 581
- Insulin-like growth factor receptors, 581
- Integrin, 261
- Intermediate metabolism, 253
- Interphotoreceptor matrix, 65
- Intracellular pH, 397
- Intraocular pressure, 507, 511, 519, 525
- Intraocular pressure elevation, 301
- Intraocular pressure pulse, 167
- Ion selective microelectrodes, 691
- Ion substitution, 283
- α -isoactin, 375
- Isobutylmethylxanthine, 511
- 3-isobutyl-1-methylxanthine, 199

- Keratocytes, 5, 237
- Ketanserin, 507
- Kynurenic acid, 691

- Lacrimal gland, 245
- Laser coagulation, 59
- Laser densitometry, 321
- Lectin biochemistry, 699
- Lectin cytochemistry, 699
- Lens, 83, 105, 113, 269, 439, 535, 619, 629, 641, 647
- Lens carotenoid, 475
- Lens epithelial cells, 113, 341
- Lens epithelium, 93, 101, 321, 613
- Lens protein, 369, 501
- Lens tumour, 759
- Lens water content, 501
- Lenticulus anterior, 41
- Light intensity, 431
- Lipids, 349
- Lipids in cornea, 481
- Lipid molecular species, 213, 219
- Lipid peroxidation, 607
- Lipid vesicles, 535

- Mannose, 75
- Mapping, 549
- Marsupial, 493
- Membrane, 83
- Membrane channels, 629
- Membrane permeability, 1
- Membrane proteins, 629
- Membrane voltage, 375
- Metabolism, 245, 641
- Metalloproteinases, 5, 733
- Microelectrode, 293
- Microfilaments, 83
- Micro-lightguide spectrophotometer, 301
- Microscope-based fluorophotometry, 397
- Microtubules, 83
- Molecular aggregates, 269
- Monodelphis domestica*, 493
- Monkey, 329
- Mouse, 65, 155, 409, 647, 759
- Mouse chromosome, 549
- Mouse, gene Tabby (*Ta*), 155
- Mouse, *nct*, congenic, 501
- Mouse, *rd*, 599
- Mouse, transgenic, 41
- MP26 mRNA, 321
- mRNA, 237, 321, 759
- MSV enhancer, 41

- Muscarinic antagonist, 755
 Muscle actin, 681
 Muscles, extraocular, 445
 Mutation, 409
 Myelin, 277
 Myo-inositol biosynthesis, 569
 Myopia, 755

nct congenic mice, 501
 Neovascularization, 493
 Neural retina, 733
 Neurites, 175
 Neurogenic inflammation, 519
 Nitrobenzoate derivatives, 101
 Non-enzymic, 205
 Normoxia, 293
 Northern blot, 321
 Nuclear fraction, 451
 Nuclear magnetic resonance spectrometry, 253, 337, 369, 641

 Ocular blood flow, 199
 Ocular metabolism, 253
 Oncogene *erb B*, 155
 Opacification, 493
 Ophthalmic arterial pressure, 167
 Opossum, 493
 Opsin, 465
 Optic nerve, 277
 Optic nerve response, 425
 Optic nerve section, 139
 Organ culture, 723
 Organic solvents, 245
 Outflow facility, 519, 723
 Owl monkey, 329
 Ox, 375
 Oxidation, 83
 Oxidative stress, 563, 715
 Oxygen, 293

 PAF antagonists, 481
 Peanut agglutinin lectin, 699
 PEP-X-antigen, 465
 Perfused cat eye, 425
 Perfusion, 723
 Permeability, 27
 pH, 397
 Phagocytosis, 237, 461, 465, 591
 Phosphatic metabolites, 253
 Phosphodiesterase inhibition, 199
 Phospholipase A, 607
 Phospholipid, 213, 219
 Phosphorothioate, 661
 Phosphorus, 253
 Phosphorus-31, 641
³¹P nuclear magnetic resonance spectroscopy, 253
 Photoreceptor, 17, 65, 311, 329, 591
 Photoreceptor cells, 669
 Plasma lipids, 349
 Plasminogen activator, 733
 Platelet-activating factor, 481
 Polyol pathway, 93
 Poodle, miniature, 349
 Porcine, 253
 K⁺-conductance, 375
 PRCD, 349, 699
 Primary cilium, 743
 Primary open angle glaucoma, 507
 Progressive photoreceptor degeneration, 17
 Progressive retinal atrophy, 17
 Progressive rod-cone degeneration, 349, 699
 Protein, 715
 Protein aggregation, 439
 Protein kinase C, 591
 Proteoglycan, 65
 Proteolysis, 341
 Pupil diameter, 507

 Quinidine-inhibitable conductance, 283

 Rabbit, 27, 59, 199, 237, 337, 397, 481, 511, 525
 Rabbit, albino, 75, 301, 357
 Radioprotector, 661
 Radiotherapy, 661
 Raman spectroscopy, 193, 475
 Rat, 105, 107, 139, 213, 219, 277, 293, 321, 439, 461, 465, 563, 591, 661
 Rat, RCS, 539, 669
 Rat, albino, 357
 RCS dystrophic rat retina, 669
rd mouse, 599
 β -receptors, 105
 Regeneration, 175, 329
 Retina, 59, 65, 213, 219, 311, 349, 599, 669, 691, 699, 733
 Retina cDNA, subtracted, 549
 Retinal arteries, 575
 Retinal degeneration, 17, 349, 599, 699
 Retinal development, 409
 Retinal dysplasia, 41
 Retinal ganglion cell, 175
 Retinal light damage, 139
 Retinal pericyte, 569
 Retinal pigment epithelium, 51, 75, 129, 451, 461, 465, 581, 591, 669
 Retinal pigment epithelium dysplasia, 409
 Retinal rod axoneme, 389
 Retinitis pigmentosa, 699
 Retinoic acid, 763
 Retinoid isomerase, 451
 Retinol, 451
 Retinol metabolism, 129
 Retinomotor movements (RMM), 431
 Retinopathy, 167
 Retinyl ester synthesis, 51
 Rhodopsin, 139, 329, 599
 Rod, 329
 Rod outer segment, 213, 219, 461, 591, 607
 Rod photoreceptor, 139
⁸⁶Rb⁺ uptake, 283
 Ruthenium red, 519

 Sclera, 5, 253
 Selenite, 563
 Sequence analysis, 549
 α -smooth muscle-actin, 681
 Sodium-calcium exchange, 619
 Na⁺/K⁺-ATPase, 375, 539
 Sorbinil, 93
 Spindle cells, 375
 Stereo reconstruction, 743
 Strabismus, 445
 Stromelysin, 5
 Subretinal space, 691
 Succinylcholine, 445
 Sulpiride, 425
 SV 40-large T, 41
 SV40 T antigen, 759
 Systolic arterial pressure, 507

 Tabby, 155
 Talin, 261
 Teleosts, 431
 Temperature sensitivity, 175
 Tissue culture, 93, 113, 121, 461
 Toad, 283
 Tonography, 507
 Trabecular cells, 393
 Trabecular meshwork, 375, 525, 681, 723
 Trace element, 277
 Transgenic mice, 41
 Translenticular potential difference, 283
 Transplantation, 461, 669
 Transport, 27

 Ubiquitin, 341
 Ultrastructure, 93, 681
 Ultraviolet radiation, 493
 Uveitis, 465

- Vasoactive intestinal peptide, 357
- Vimentin, 681
- VIP receptor, 357
- Visual cycle, 129
- Visual pigment, 329
- Vitamin A, 51
- Vitamin C, 563
- Vitamin E, 607
- Vitreous oxygen tension, 293
- Vitreous humour, 27
- Volume regulation, 283
- Water movement, 337
- WR-77913, 661
- Yellowing, 205

Copyright © 1991 by Academic Press Limited
ALL RIGHTS RESERVED

No part of this volume may be produced in any form, by photostat, microfilm,
or any other means, without written permission from the publishers

Printed in Great Britain